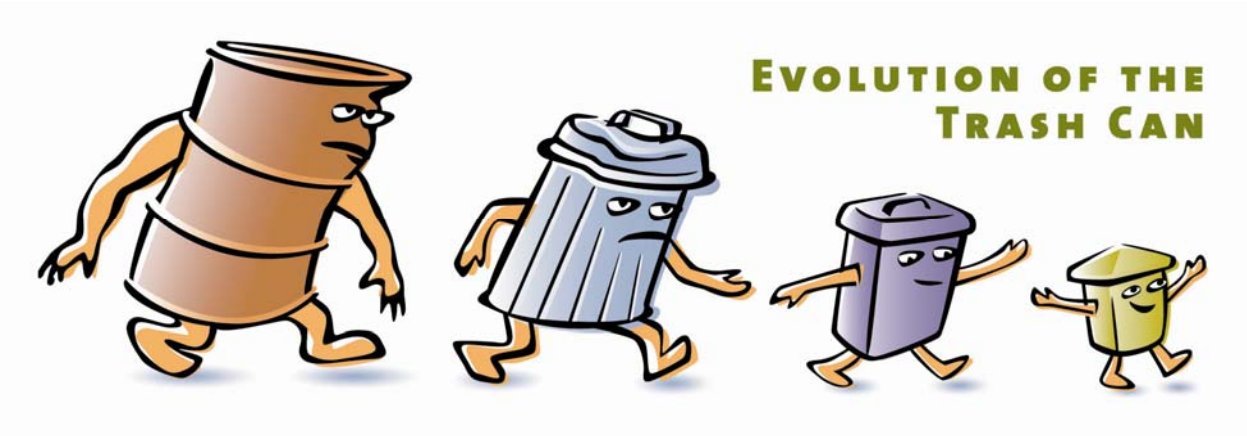
City of Santa Barbara

Solid Waste Strategic Plan



Prepared by:
Environmental Services Section
Public Works Department

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Contributors:

Kevin Afflerbaugh, Environmental Specialist
Bill Ferguson, Water Resources Supervisor
Edward France, Recycling Coordinator
Karen Gumtow, Environmental Specialist
Stephen MacIntosh, Environmental Services Supervisor
Steve Mack, Water Resources Manager
Anthony J. Nisich, Public Works Director

Printed on 30% post-consumer recycled fibers

July 22, 2005

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Executive Summary

INTRODUCTION

The City's Solid Waste Strategic Plan lays out a strategy for maximizing solid waste diversion in the City of Santa Barbara. This document looks at the City's solid waste components, determines the potential for recycling currently disposed materials, and recommends a set of projects and programs that will achieve the City's diversion goals.

2002 SOLID WASTE POLICY

On September 17, 2002, the City Council created the following solid waste policy:

> "The City of Santa Barbara will maintain ultimate control of its waste stream, pursue long-term disposal options, and develop a cost-effective solid waste management system that is responsive to public service and keeps the City in compliance with State mandates. All components of the City's waste management system will be designed to produce measurable results. The City shall develop and maintain a Solid Waste Program that continually reduces the volume of material disposed in landfills through aggressive recycling and other alternative diversion strategies. The City will work to be the recycling leader of the State of California.
>
> Whether as a single entity or in partnership with other jurisdictions, the City will strive for long-term, reliable solutions by designing solid waste programs that protect public health and the environment, and minimize the City's exposure to liability. The City will conduct public education and outreach programs to ensure the City's residents and businesses are fully aware of the benefits of participation."

In addition to the above policy statement, Council declared its goal to attain a 70% diversion rate by the year 2010, and to design the City's solid waste infrastructure adhering to the following principles:

- Cost-Effective Diversion Programs
- Secure, Reliable Service
- Minimal Exposure to Liability
- Long-term Options for Disposal
- Ultimate Control of Waste Stream

The policy statement also contains short, mid, and long-term strategies that formed the basis of the City's solid waste program. With the passage of time, staff have found that more direction is needed for the programs and projects needed to maximize diversion in the City of Santa Barbara.

REGIONAL COOPERATION

In June 2001, the Santa Barbara County Board of Supervisors and the Santa Barbara City Council established the Multi-Jurisdictional Solid Waste Task Group (Task Group) to plan long-term solid waste management strategies and facilities. The Task Group now includes elected representatives from the County, all of the incorporated cities within the County, and numerous sanitation districts.

Figure ES-1: Official logo of the Multi-Jurisdictional Solid Waste Task Group

The result of the system planning effort was a conceptual countywide long-term solid waste management plan unanimously approved by the Task Group on February 23, 2004. New programs or facilities proposed for the South Coast wasteshed include:

- Expansion of existing commercial recycling programs;
- Increased collection of electronic waste;
- Development of a new household hazardous waste facility;
- Consideration of construction and demolition (C&D) recycling ordinances;
- Siting a regional material recovery facility (MRF) on the South Coast;
- Development of a food waste collection and processing program;
- Pursuit of conversion technology (CT) as an alternative to landfilling;
- Development of a dirty material recovery facility (MRF) and corresponding composting facility (should CT prove infeasible).

The Task Group has discussed several potential governance structures for managing the regional systems and a draft Joint Powers Planning Authority scope has been developed by City staff and the City Attorney's office. The Task Group anticipates addressing potential governance structures once implementation of specific elements of the conceptual plan begins.

The Task Group remains an important mechanism for resolving the region's solid waste management issues and development of collaborative efforts. It will continue to play a large role in development of regional projects and programs for the City of Santa Barbara.

WHERE DOES THE CITY'S MUNICIPAL SOLID WASTE (MSW) GO?

Table ES-1 shows the distribution of the commercial and residential municipal solid waste which is collected by the City's franchised haulers. The disposal site for City refuse is the County-owned and operated Tajiguas Landfill. At current disposal tonnages, Tajiguas is permitted by the California Integrated Waste Management Board (CIWMB) to accept waste until the year 2020. The City's franchised haulers collect thousands of tons of refuse and recyclable materials and deliver these materials to three primary facilities for processing or disposal: Tajiguas Landfill, MarBorg Recycling Facilities or the South Coast Transfer Station.

Table ES-1
Processing and Disposal Facilities for City Waste

Waste Stream Component	Destination				Tons of Material	
	Tajiguas Landfill	MarBorg C&D Recycling Facility	MarBorg Material Recovery Facility	Transfer Station	Total Diversion	Total Generation*
Trash	96,300	0	0	0	0	96,300
Residential Recyclables	0	0	0	12,000	12,000	12,000
Commercial Recyclables	0	0	3,000	0	3,000	3,000
Greenwaste	0	5,500	0	20,000	25,500	25,500
Construction & Demolition	0	47,000	0	3,000	50,000	50,000
Other	-	7,000	0	4,000	11,000	11,000
Totals	**96,300**	**59,500**	**3,000**	**39,000**	**101,500**	**197,800**

*Note: All figures are approximate and expressed in tons derived from City's 2002 CIWMB-approved annual report. "Other" refers to material hauled by individuals and small businesses.

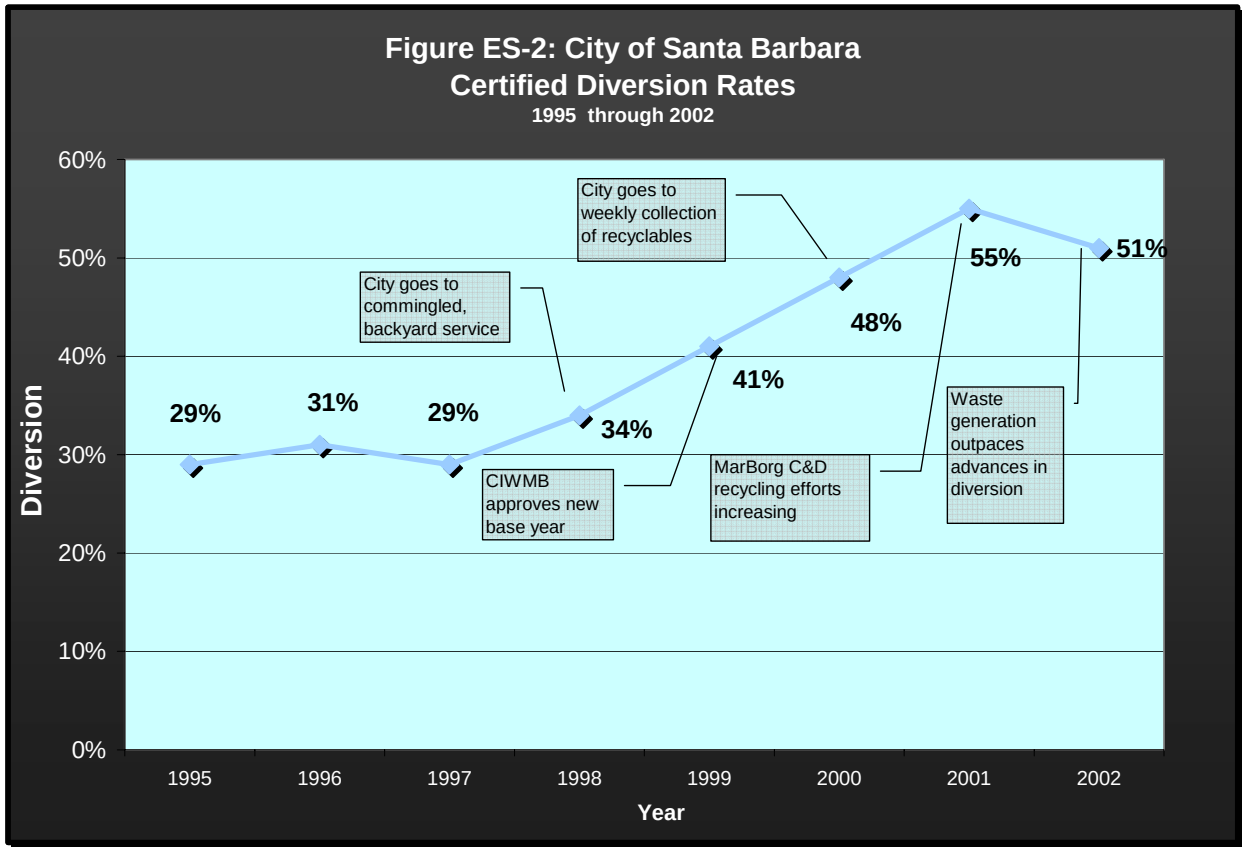
The City of Santa Barbara is split into two municipal solid waste (MSW) collection zones. The scheduled collection of all commercial and residential recyclables, greenwaste, and refuse is provided by two franchised haulers: BFI (Zone 1) and MarBorg Industries (Zone 2) City ratepayers pay approximately $15 million/year for these services, with 2.8% in fees, or $435,000, going to the County of Santa Barbara for the regional household hazardous waste facility and assistance with diversion programs, and 11%, or $1.65 million, utilized by the City for billing administration and City-administered diversion programs. The

franchised haulers take approximately 100,000 tons of refuse to Tajiguas which has a tipping fee of $51 per ton, totaling over $5 million per year. The County charges $48 per ton, or $960,000, per year to handle approximately 20,000 tons of greenwaste and $5 per ton to handle 12,000 tons of recyclables for a total annual cost of $60,000.

Currently (June 2005), City of Santa Barbara residents pay $22.15 for basic residential solid waste collection service. This basic fee provides for 32 gallons of trash, up to 96 gallons of recycling capacity, and 32 gallons of greenwaste picked up on a weekly basis.

HOW DOES SANTA BARBARA DIVERSION COMPARE?

The California Integrated Waste Management Act (AB 939) of 1989 mandates that all jurisdictions divert at least 50% of their MSW from landfills through waste reduction, reuse or recycling. Diversion has climbed steadily in Santa Barbara passing 50% in 2000 and reaching a high of 55% in 2001 with a dip to 51% in 2002. Figure ES-2 highlights a handful of events from 1998 to 2002 that impacted the City's diversion rate.



HOW DO WE MAXIMIZE DIVERSION?

The City can maximize its diversion by targeting the components of the solid waste stream that have the best diversion potential. Table ES-2 lists the total generation of a variety of materials by the City every year, the portion that is being diverted from the landfill, and those tons that can be reasonably expected to be diverted through projects, programs and administrative adjustments. To move from the current rate of 51% to 70% by the year 2010, the City must obtain no less than 19%, or 38,000 tons of additional diversion per year.

Table ES-2: Waste Generation by Material Type, Tons Diverted and Available for Diversion

#	Material	Base Year Generation*	Captured by Existing Programs	Remaining Divertible Fraction	Additional Diversion**	Cumulative Diversion (Current = 51%)
1	Mixed C&D[1]	58,100	50,000	5,000	2.5%	53.5%
2	Greenwaste	32,000	23,000	8,000	4.0%	57.5%
3	Paper & Cardboard[2]	25,700	15,900	9,500	4.75%	62.25%
4	Wood[3]	5,400	2,000	2,000	1.0%	63.25%
5	Scrap Metal[2]	3,700	1,400	2,000	1.0%	64.25%
6	Cans and Bottles[2]	7,800	4,000	2,000	1.0%	65.25%
7	Plastic Bags[3]	4,300	700	2,000	1.0%	66.25%
8	Electronics	4,710	2,110	2,000	1.0%	67.25%
9	Foodscrap	23,700	1,700[4]	5,000	2.5%	69.75%
10	Textiles[3]	1,700	500	1,000	0.5%	70.25%
11	Hazardous[2]	890	190	500	0.25%	70.5%
12	Residual[1]	29,800	0	9,700	5.0%	75.5%
	Totals	***197,800***[5]	***101,500***[6]	***48,700***	***24.5%***	***75.5%***

* Amounts derived from 2003 waste characterization percentages

** 2,000 tons represents 1% additional diversion

[1] Includes construction material, bulky plastics & other recyclables

[2] Per Gold Coast Material Recovery Facility monthly reports

[3] Accurate information on current diversion amounts unavailable

[4] Estimate of backyard composting efforts

[5] With CIWMB adjustment factors (CPI, taxable sales, employment and population) calculated generation is actually higher than reported in base year

[6] Total captured by existing programs modified to account for recyclers outside the City's franchise system and CIWMB adjustment factors

Recommended Programs and System Modifications

Table ES-3 summarizes the recommended programs, projects and system modifications contained in this Plan with the estimated diversion potential for each approach. These programs have been designed to capture the divertible materials presented in Table ES-2.

Table ES-3: Diversion Potential and Costs of Programs and System Modifications

Programs / Modifications	Targeted Materials*	Potential Diversion	Increase in Diversion**	Estimated Cost***	See Page
Programs					
C&D Recycling Ordinance	1,2,3,4,5	15,000[1]	7.50%	$55,000	14
Mandatory Commercial Recycling	3,5,6	6,000	3.00%	$50,000	16
School Recycling	2,3,5,6	2,000	1.00%	$25,000	18
Local Material Recycling Facility	3,5,6	6,000	3.00%	$25,000	20
City Facilities Recycling	2,3,5,6	500	0.25%	$5,000	22
Foodscrap Recovery	9	5,000	2.50%	$154,000	24
Public Outreach & Education	N/A	-	-	$100,000	28
Conversion Technology	12	N/A	N/A	N/A	30
System Modifications & Other Initiatives					
Annual Waste Generation	N/A	2,000	1.00%	-	33
Additional Greenwaste Capacity[2]	2	5,000	2.50%	$5,000	34
Unscheduled Hauling Permits	1	3,000	1.50%	$2,000	34
C&D Recycling Facility Support	1,12	-	-	-	35
Rate Incentives	2,3,4,5,6	1,000	0.50%	-	35
Waste Stream Optimization	2,3,4,5,6	-	-	-	36
Uniform Container Colors	3,5,6	-	-	-	36
Space Requirements for Recycling	2,3,5,6	-	-	-	36
Recycling in Public Spaces	3,6	700	0.5%	$130,000	37
Green Purchasing Policy	N/A	-	-	$4,000	37
Hazardous Waste Management	11	2,500	1.25%	-	38
Totals		**48,700**	**24.5%**	**$555,000**	

** Materials' numbers correspond to numbers in Table ES-2*

*** 2,000 tons = 1% diversion*

**** Annual cost estimate based on administration, staffing, equipment in 2010.*

[1] *Potential C&D diversion tonnages include mixed C&D, wood, greenwaste and scrap metal*

[2] *Additional 32 gallons (64 gallons total) greenwaste capacity at no cost to residential customers*

The City must work on multiple fronts, some more costly than others, to maximize diversion. This Plan recommends starting with the easy-to-do, high volume activities first while continuing with the more lengthy MJSWTG process and exploring pilot projects with more expensive programs. The proposed 2006 Solid Waste Program budget with carryover can fund the programs and projects outlined for the upcoming fiscal year. Table ES-4 contains a description of each program and project in this Strategic Plan and an indication of where City Council approval will be needed.

Table ES-4: Recommended Programs, Projects and System Modifications

Requires Additional Council Approval	Program	Description	See Page
Immediate-term (In Progress)			
No	**School Recycling**	• Visiting school sites to inventory recycling capacity • Determining types of wastes produced • Visiting cafeterias to determine what can be recycled • Developing opportunities for waste reduction	18
No	**City Facilities Recycling**	• Providing clearly marked, convenient and standardized recycling bins for use by City employees • Making recycling convenient in City government facilities	22
No	**Public Education & Outreach**	• Developing focused, consistent message to update community on City's recycling and reuse programs	28
No	**Uniform Container Colors**	• Working with franchise haulers to make all commercial recycling containers bins white and all residential recycling cans and carts blue	36
No	**Space Requirements for Recycling**	• Requiring new residential and commercial construction projects to dedicate minimum of 50% capacity to recycling • Construction plans are currently being reviewed by City staff	36
No	**Recycling in Public Spaces**	• Continuing effort to provide recycling in City parks, sidewalks and parking lots • Over 500 recycling containers have been installed on City sidewalks and in City parks	37

Table ES-4 – Continued

Requires Additional Council Approval	Program	Description	See Page
Short-term (For Consideration in FY 2006)			
Yes	**C&D Recycling Ordinance**	• Applies to all construction and demolition projects • Requires applicant for building permit to recycle at least 50% of project waste at certified local recycling facility	14
Yes	**Mandatory Commercial Recycling**	• Requires recycling in commercial sector • Requires equal space for recyclables and refuse in all multi-unit residential and commercial facilities	16
Yes	**Pilot Foodscrap Recovery & Composting**	• Collects foodscraps from several large institutions and restaurants • Commitments to participate in Pilot Program include Cottage Hospital and Santa Barbara City College • Material can be composted at existing composting facility in northern Santa Barbara county	24
No	**Annual Waste Generation**	• Updates City's waste generation rate on file with CIWMB	33
Yes	**Additional Greenwaste**	• Increases single-family residential greenwaste capacity • Provide additional greenwaste containers to residential customers	34
Yes	**Unscheduled Hauling Permits**	• Requires businesses providing unscheduled hauling services to obtain permit • Allows City to track movement of materials and direct participants to recycling and processing facilities	34
Yes	**C&D Recycling Facility Support**	• Supports expansion of CIWMB-permitted capacity at MarBorg C&D Recycling Facility	35
Yes	**Rate Incentives**	• Modifies rate structure to maximize financial incentives to recycle	35
No	**Waste Stream Optimization**	• Considers current processing arrangements for City's greenwaste and commingled recyclables to gauge potential efficiencies gains by directing materials to the processing facilities that provide the best cost/benefit ratios	36
Yes	**Green Purchasing Policy**	• Contributes to City recycling effort through use of recycled products • Identifies alternatives to toxic chemicals	37

Table ES-4 – Continued

Requires Additional Council Approval	Program	Description	See Page
Medium-term Regional Projects (Within Five Years)			
Yes	**Local Material Recovery Facility**	• Explores potential siting, operation, and governance structures for regional Material Recovery Facility on South Coast	20
Yes	**Hazardous Waste Management**	• Expands Santa Barbara ABOP permit to accept entire range of household hazardous and electronic waste • Provides centrally located, safe hazardous waste disposal for region	37
Long-term Regional Projects (Beyond Five Years)			
Yes	**Conversion Technology**	• Explores feasibility of conversion technology as alternative to landfilling non-divertible fraction of South Coast MSW • Facility construction and operation would be beyond the five year time frame of this Plan	30

Section 1 - Background

The overall purpose of this document is to lay out a strategy to maximize City of Santa Barbara solid waste diversion from landfills by the year 2010, consistent with goals expressed in the 2002 City Solid Waste Policy. This section summarizes the State mandate for 50% diversion, reviews current City policies on solid waste, describes the City's solid waste system, discusses regional implications of solid waste management, and identifies targeted reductions by type of material.

STATE MANDATED 50% DIVERSION

In 1989 the State of California passed the California Integrated Waste Management Act (AB 939), mandating that all jurisdictions achieve at least 50% diversion of solid waste from landfills through waste reduction, reuse, or recycling. The law provides for fines of up to $10,000 per day for failure to comply. As of 2002, 186 out of 434 California jurisdictions had met or exceeded the 50% mandate. At present, 112 jurisdictions remain below the 50% threshold and 136 have not yet had their rate certified by the CIWMB.

Figure 1-1: Logo of the California Integrated Waste Management Board (CIWMB)

Data for 2002 indicate that Californians diverted approximately 48% of their waste, or 34 million tons, from landfills. This represents a diversion rate four times greater than in 1990 when AB 939 took effect. Since 1990, Californians have diverted more than 230 million tons of natural resources from landfills.

2002 CITY SOLID WASTE POLICY

The City has a long history of leadership in recycling. The most recent solid waste policy, adopted by the City Council on September 17, 2002, entitled ***Solid Waste Policies, Principles, Goals and Strategies*** (see Appendix A for entire document), set the following solid waste policy for the City:

> "*The City of Santa Barbara will maintain ultimate control of its waste stream, pursue long-term disposal options, and develop a cost-effective solid waste management system that is responsive to public service and keeps the City in compliance with State mandates. All components of the City's waste management system will be designed to produce measurable results. The City shall develop and maintain a Solid Waste Program that continually reduces the volume of material disposed in landfills through aggressive recycling and other alternative diversion strategies. The City will work to be the recycling leader of the State of California.*

Whether as a single entity or in partnership with other jurisdictions, the City will strive for long-term, reliable solutions by designing solid waste programs that protect public health and the environment, and minimize the City's exposure to liability. The City will conduct public education and outreach programs to ensure the City's residents and businesses are fully aware of the benefits of participation."

In addition to the above policy statement, the City Council took the following actions:

- Set a goal to attain a 70% diversion rate by the year 2010
- Established the following guiding principles for design of the City's solid waste system:
  - Cost-Effective Diversion Programs
  - Secure, Reliable Service
  - Minimal Exposure to Liability
  - Long-term Options for Disposal
  - Ultimate Control of Waste Stream
- Adopted strategies for meeting solid waste goals (outlined in Table 1-1 along with status of implementation).

Figure 1-2: Pedestrians utilizing recycling container on State Street

Table 1-1:Strategies Adopted by City Council in 2002

Strategies	Status and Accomplishments
Short-Term	
Evaluate a Joint Powers Planning Authority	• Ongoing discussions within the structure of the Multi-Jurisdictional Solid Waste Task Group (Task Group)
Support Tajiguas Landfill Expansion Project	• City's elected officials supported the project at California Integrated Waste Management Board (CIWMB) and Regional Water Quality Control Board (RWQCB) hearings • Staff assisted other jurisdictions in garnering support for the expansion of the landfill
Implement Recycling Programs at City Facilities, Parks, and Streets	• Over 800 recycling containers installed in City facilities • 150 new trash & recycling containers installed on lower State Street • Over 400 recycling containers installed in City parks

Table 1-1 Continued

Strategies	Status and Accomplishments
Short-Term	
Develop Foodscrap Recovery & Composting Program	• Recruited pilot program participants, including Cottage Hospital and Santa Barbara City College • Researched composting technologies & costs • Arranged for free collection with BFI for pilot program
Develop Commercial Recycling Programs	• Promoted recycling in coordination with haulers • Contacted businesses to discuss the economic and environmental benefits of recycling • Offered technical assistance to hundreds of commercial establishments to develop cost-effective recycling programs
Promote Use of Recycled-Content Products	• Encouraged and monitored use of recycled-content materials in City applications • Drafted a Green Purchasing Policy (GPP) for Citywide purchasing • Implemented City-wide use of 30% post-consumer paper
Mid-Term	
Monitor Options for a Long-term Solid Waste Management System	• Staff will research options for source reduction, recycling, reuse, and disposal in new in-county landfills, rail-haul, out-of-county landfills, and alternative technologies
Address Long-term Diversion Options for Biosolids	• Staff is working to identify reliable recycling options for biosolids • 10% of the City's biosolids are currently processed at a composting facility in northern Santa Barbara County
Develop a Construction and Demolition (C&D) Recycling Ordinance	• Staff is developing a C&D Recycling Ordinance that will mandate the diversion of C&D debris from development projects
Establish Green Building Guidelines	• Working with City Community Development Department to develop Green Building guidelines for public & private construction projects
Long-Term	
Evaluate a Local Material Recovery Facility	• City is leading the feasibility analysis for siting a new Materials Recovery Facility (MRF) on the South Coast • City staff convenes the Task Group subcommittee evaluating the costs and benefits of siting a local MRF
Identify Site for a New Regional Landfill	• In the late 1990's, the City assisted the County in its effort to identify a new, in-county landfill site
Evaluate Alternative Technologies	• In conjunction with the Task Group, staff assisted in the development of a draft policy statement maintaining that conversion technology may be preferable to landfilling the City's residual if it satisfies cost and environmental criteria

REDUCE AND REUSE

Waste reduction and reuse of resources are two additional elements of the City's sold waste management effort. Staff recently secured grant funding from the CIWMB and has been working with local non-profits to promote the practice of reducing and reusing items that are not ready for disposal or recycling. Much of the City's new recycling website, www.SBrecycles.org, is dedicated to promoting reuse in the community. Although the practices of waste reduction and reuse are difficult to quantify, they are key components in the City's approach to maximizing diversion.

For this Strategic Plan staff is recommending adopting an approach that focuses on lower-cost, easy-to-do, and practical programs and system modifications that maximize diversion and result in better knowledge of the City's actual solid waste generation and disposal characteristics. Seventy percent diversion will still be a target with this approach, but staff will keep a sharp eye on cost and practicality. If the City achieves 70% diversion staff will continue with expansion of cost-effective diversion programs to go beyond 70% and adjust the target accordingly.

Figure 1-3: Reusable clothing baled and readied for shipment

REGIONAL COOPERATION

In June 2001, the Santa Barbara County Board of Supervisors and the Santa Barbara City Council established the Multi-Jurisdictional Solid Waste Task Group (Task Group) to plan for long-term solid waste management strategies and facilities. The Task Group now includes elected representatives from the County, all of the incorporated cities within the County, and numerous sanitation districts.

Figure 1-4: Official logo of the Multi-Jurisdictional Solid Waste Task Group

The result of the system planning effort was a conceptual countywide long-term solid waste management plan unanimously approved by the Task Group on February 23, 2004. New programs or facilities proposed for the South Coast wasteshed include:

- Expansion of existing commercial recycling programs,
- Increased collection of electronic waste,
- Development of a new household hazardous waste facility,
- Consideration of construction and demolition (C&D) recycling ordinances,
- Siting a regional material recovery facility (MRF) on the South Coast,
- Development of a foodscrap collection and processing program,
- Pursuit of conversion technology (CT) as an alternative to landfilling, and
- Development of a dirty material recovery facility (MRF) and corresponding composting facility (should CT prove infeasible).

The Task Group has discussed several potential governance structures for managing the regional systems and a draft Joint Powers Planning Authority scope has been developed by City staff and the City Attorney's office. The Task Group anticipates addressing potential governance structures once implementation of specific elements of the conceptual plan begins.

The Task Group remains an important mechanism for resolving the region's solid waste management issues and development of collaborative efforts. It will continue to play a large role in developing regional projects and programs for the City of Santa Barbara.

ADMINISTERING THE CITY'S SOLID WASTE MANAGEMENT SYSTEM

The City's two franchised haulers are MarBorg Industries and BFI Waste Systems, a subsidiary of Allied Waste Industries. The regularly scheduled collection of the City's commercial and residential recyclables, greenwaste, and refuse is provided by these two haulers. The City of Santa Barbara is split into two waste collection zones. All accounts to the east and north of State Street (Zone 2) are serviced by MarBorg and all accounts to the west and south of State Street (Zone 1) are serviced by BFI. Currently (June 2005), City of Santa Barbara residents pay $22.15 per month for basic residential solid waste service. The service includes weekly pick-up of 32-gallons of refuse, up to 96 gallons of recycling, and 32 gallons of greenwaste. Revenues total approximately $15 million each year. A breakdown of costs for operating the City's solid waste collection system is shown in Table 1-2.

Table 1-2: Breakdown of the City's Annual Solid Waste System Costs

Cost Component (Approximate % of Total Billings)	Approximate Annual Cost
Administrative costs for billing and collection – City of Santa Barbara (5%)	$750,000
Recycling and diversion programs (4%)	$600,000
County Program Fee (3.0 %) $385,000 for Household Hazardous Waste Facility $50,000 for planning documentation and diversion assistance	$435,000
Franchise Fee (2%)	$300,000
Refuse handling & processing of recycled materials and greenwaste by haulers (46%)	$6,795,000
Refuse tipping fees paid to County – 100,000 tons @ $51/ton (34%)	$5,100,000
Greenwaste processing by County – 20,000 tons @ $48/ton (6%)	$960,000
Processing of recyclables by County -12,000 tons @ $5/ton (<1%)	$60,000
Total:	**$15,000,000**

The City's franchise agreements with BFI and MarBorg Industries provide for an annual rate adjustment equal to 65% of the Consumer Price Index, designed to reflect the haulers' increased annual operating costs, except tipping fees. The contracts also provide for a separate rate adjustment to reflect changes in the County's tipping fees, which is proposed to increase by $1.50/ton per year, for the following 5 years..

WHERE DOES THE CITY'S WASTE GO?

The two franchised haulers collect and dispose of most of the City's commercial and residential refuse. Disposal occurs at the County-owned and operated Tajiguas Landfill, located in a canyon on the Gaviota Coast, approximately 26 miles west of Santa Barbara. Tajiguas provides disposal for the City of Santa Barbara, unincorporated areas of the South Coast, the cities of Solvang and Buellton, and Cuyama Valley. The facility began accepting waste approximately 37 years ago, as the City was phasing out its Las Positas Landfill. At current disposal rates, Tajiguas is permitted by the CIWMB to accept waste for approximately 15 more years, or until the year 2020. In addition to trash disposal, the franchised haulers collect thousands of tons of recyclable materials. Table 1-3 shows a breakdown of the City's municipal solid waste going to three primary facilities for processing or disposal.

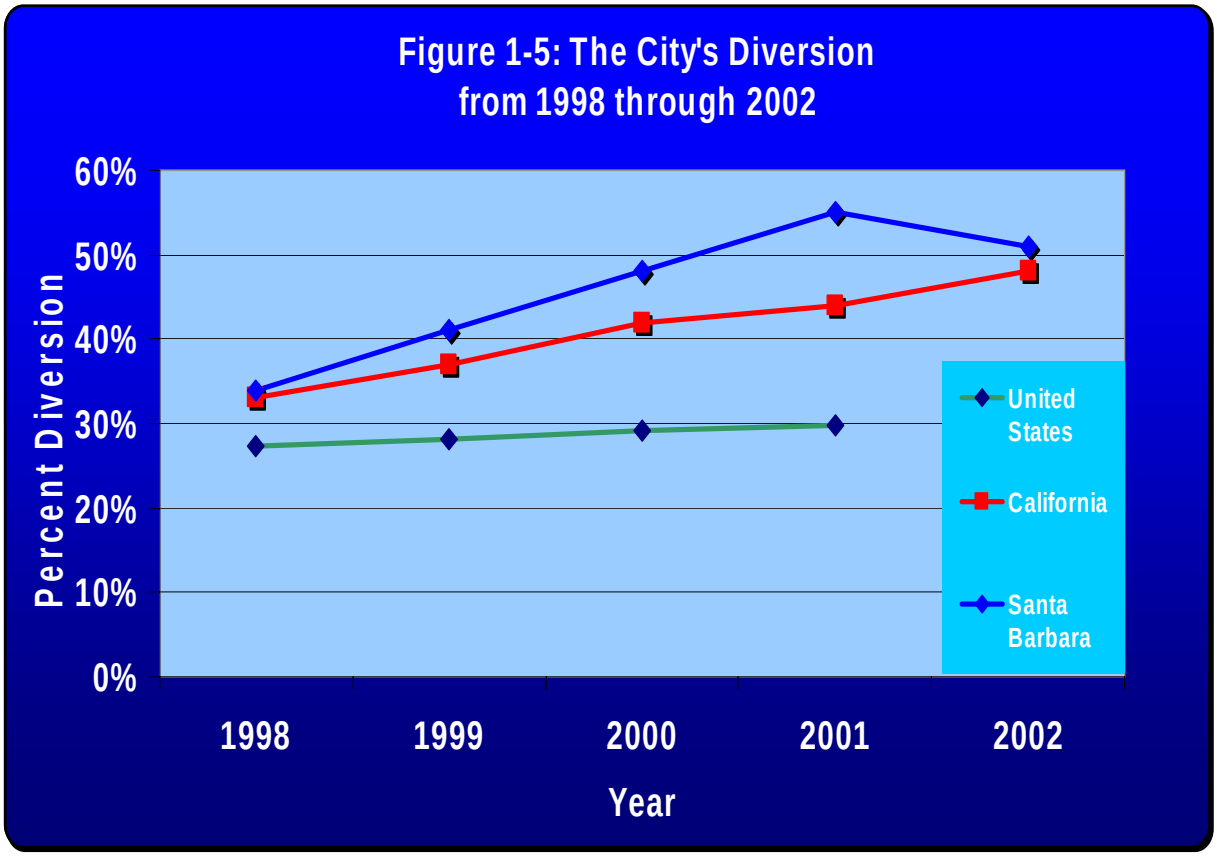
Table 1-3
Processing and Disposal Facilities for City Waste

Waste Stream Component	Destination				Tons of Material	
	Tajiguas Landfill	MarBorg C&D Recycling Facility	MarBorg Material Recovery Facility	Transfer Station	Total Diversion	Total Generation*
Trash	96,300	0	0	0	0	96,300
Residential Recyclables	0	0	0	12,000	12,000	12,000
Commercial Recyclables	0	0	3,000	0	3,000	3,000
Greenwaste	0	5,500	0	20,000	25,500	25,500
Construction & Demolition	0	47,000	0	3,000	50,000	50,000
Other	-	7,000	0	4,000	11,000	11,000
Totals	**96,300**	**59,500**	**3,000**	**39,000**	**101,500**	**197,800**

*Note: All figures are approximate and expressed in tons derived from City's 2002 CIWMB-approved annual report. "Other" refers to material hauled by individuals and small businesses.

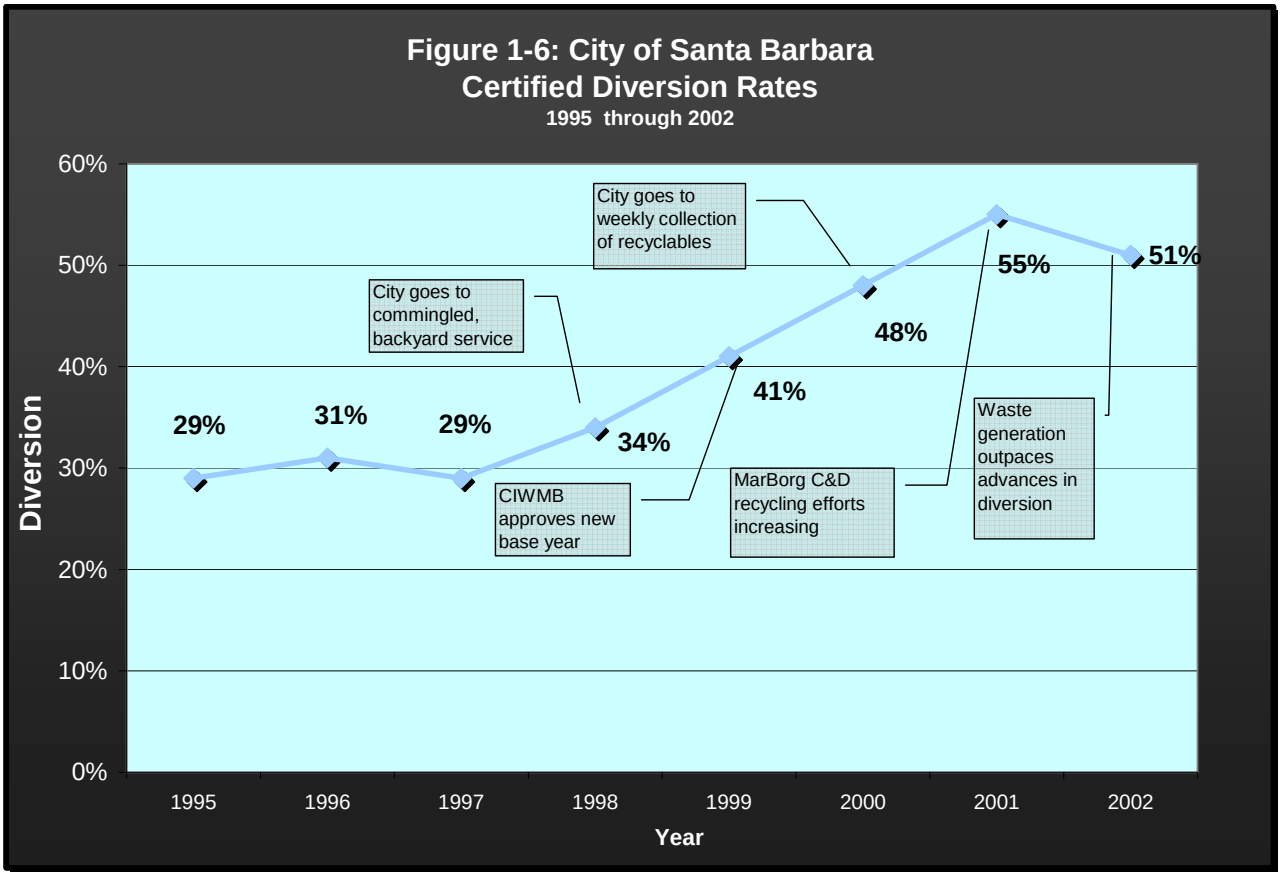
HOW DOES SANTA BARBARA'S DIVERSION COMPARE?

On the local level, Santa Barbara does very well and produces significant environmental benefits through its recycling programs. In 2002, Santa Barbara residents and businesses diverted over 100,000 tons from local landfills, saving over $6.5 million in energy costs, keeping 14,464 tons of pollutants from the atmosphere and 72.5 tons of waterborne waste from waterways. The community also saved 222,964 trees by recycling and using paper products made from post-consumer recycled feedstock.[1]



Over the past several years, diversion has climbed steadily in Santa Barbara, with the first downward trend occurring in 2002, as shown in Figure 1-5. A handful of factors are responsible for this, including a large amount of remodeling and construction waste that was not recycled. Figure 1-6 highlights several events from 1998 to 2002 that impacted the City's diversion rate. These figures demonstrate that further program efforts are necessary to maximize diversion.

[1] National Recycling Coalition, Recycling's Environmental Benefits Calculator: www.nrc.org



The California Integrated Waste Management Act (AB 939) requires all California jurisdictions to establish a base year indicating the total waste generated in a given year and also provides cities the opportunity to establish new base years if they are outdated. The City last updated its base year for use in reporting to the CIWMB in 1999. Because "base year" implies that solid waste generation is static and does not change in response to active programs designed to modify waste generation characteristics, this Plan uses a different term – annual waste generation – to better describes this. After careful analysis of the major components of the City's waste stream, staff has determined that the City's waste generation rate on file with the CIWMB needs to be updated for two reasons:

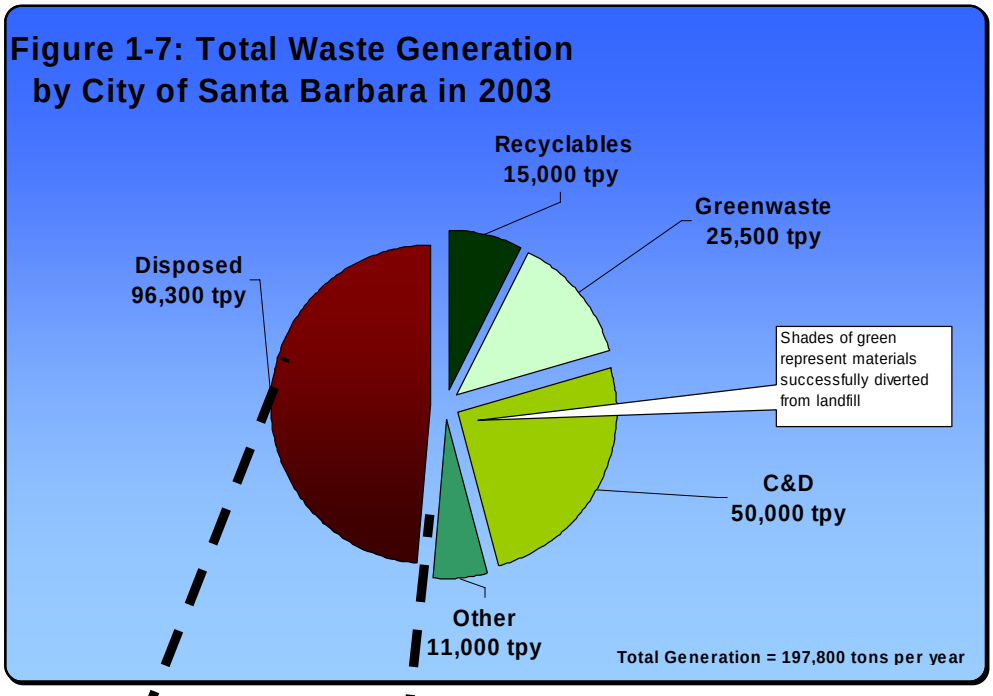
- The City's waste stream has changed significantly. Remodeling projects have increased in the past few years. In addition, there has been a great deal of new construction, both residentially and commercially. These activities have resulted in the generation of significantly more construction and demolition debris than calculated in the current waste generation rate.

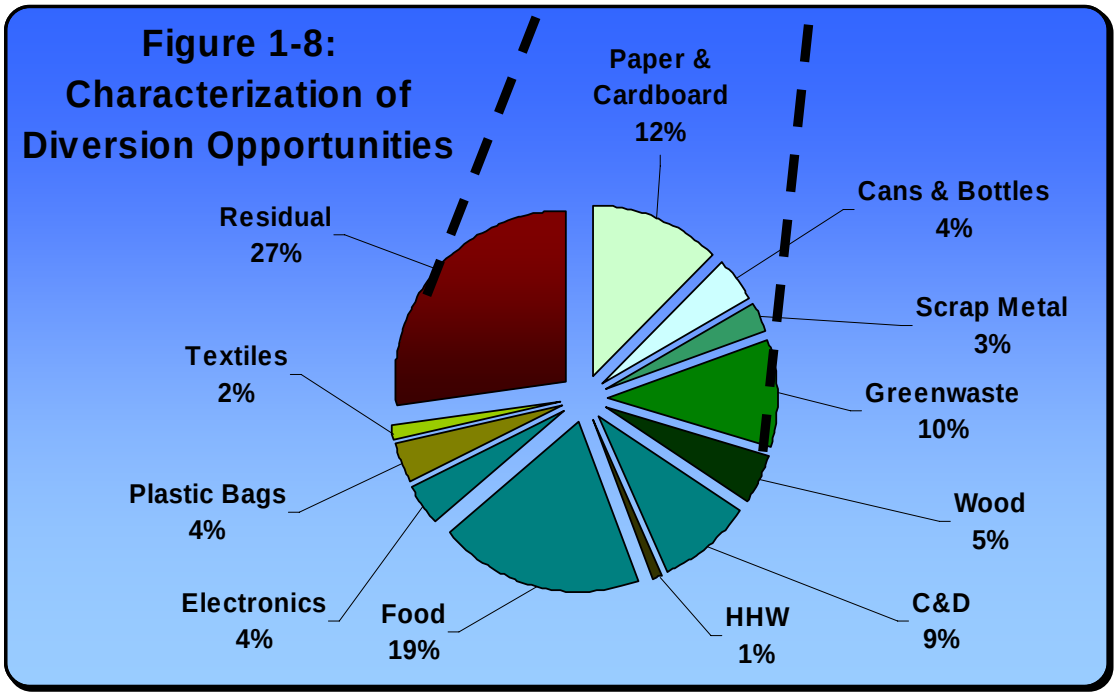
- The City's existing annual waste generation does not reflect current diversion programs and their effect on the City's waste stream. The City has implemented a number of programs since 1999 and it is likely that new diversion tonnages are not currently included in the City's total generation rate.

WHAT'S LEFT IN A SANTA BARBARA TRASH CAN?

Maximizing diversion requires a look at the components of the City's current waste stream. In 2003, the City participated in a characterization study, which analyzed the City's solid waste stream being buried at the Tajiguas Landfill. Figure 1-7 illustrates the constituents of the City's entire disposed waste stream, providing the basis for recycling and diversion programs recommended in this Plan.

Figure 1-7 shows the official CIWMB "Base Year" generation rate for the City. Based on annual adjustment factors allowed by CIWMB, including CPI, population, employment and taxable sales, the City's adjusted total generation rate in 2003 was approximately 197,800 tons per year.





Tonnages used in this Plan are modified to reflect these adjustments to the Base Year, with CIWMB-adjustments factored into both total waste generation and materials diverted. Materials currently disposed at the County's Tajiguas Landfill and not recycled are shown in Figure 1-8, and include foodscraps, packaging, plastics, yard waste, grocery bags, bottles, cans, newspaper, C&D debris and an array of consumer products that have reached the end of their useful lives.

Of the City's total waste generation in 2003, 30% (approximately 59,000 tons) originates in the commercial sector while 70% (approximately 139,000 tons) originated in the residential sector. (See Appendix B for a complete breakdown of City's disposed waste.)

HOW DO WE MAXIMIZE DIVERSION?

Table 1-4 on the following page lists the total annual generation of various waste materials, the portion currently being diverted, the remaining divertible portion, and the corresponding percentage of the total waste stream. This table identifies 48,700 tons of additional material that are considered capable of being diverted to maximize the City of Santa Barbara's diversion rate. The following two sections of this Plan provide detail on the programs, system modifications and other initiatives that aim to achieve this additional diversion.

Table 1-4: Waste Generation by Material Type, Tons Diverted and Available for Diversion

#	Material	Base Year Generation*	Captured by Existing Programs	Remaining Divertible Fraction	Additional Diversion**	Cumulative Diversion (Current = 51%)
1	Mixed C&D[1]	58,100	50,000	5,000	2.5%	53.5%
2	Greenwaste	32,000	23,000	8,000	4.0%	57.5%
3	Paper & Cardboard[2]	25,700	15,900	9,500	4.75%	62.25%
4	Wood[3]	5,400	2,000	2,000	1.0%	63.25%
5	Scrap Metal[2]	3,700	1,400	2,000	1.0%	64.25%
6	Cans and Bottles[2]	7,800	4,000	2,000	1.0%	65.25%
7	Plastic Bags[3]	4,300	700	2,000	1.0%	66.25%
8	Electronics	4,710	2,110	2,000	1.0%	67.25%
9	Foodscrap	23,700	1,700[4]	5,000	2.5%	69.75%
10	Textiles[3]	1,700	500	1,000	0.5%	70.25%
11	Hazardous[2]	890	190	500	0.25%	70.5%
12	Residual[1]	29,800	0	9,700	5.0%	75.5%
	Totals	***197,800***[5]	***101,500***[6]	***48,700***	***24.5%***	***75.5%***

* Amounts derived from 2003 waste characterization percentages

** 2,000 tons represents 1% additional diversion

[1] Includes construction material, bulky plastics & other recyclables

[2] Per Gold Coast Material Recovery Facility monthly reports

[3] Accurate information on current diversion amounts unavailable

[4] Estimate of backyard composting efforts

[5] With CIWMB adjustment factors (CPI, taxable sales, employment and population) calculated generation is actually higher than reported in base year

[6] Total captured by existing programs modified to account for recyclers outside the City's franchise system and CIWMB adjustment factors

Section 2 – Programs and Projects

INTRODUCTION

This section outlines programs and projects that are expected to contribute to boosting the City's diversion rate. Table 2-1 lists diversion programs and projects along with the estimated diversion potential for each component and estimated costs. These programs and projects are described in the remainder of the section. They are designed to capture 34,500 tons of the divertible materials identified in Table 1-4 on page 12.

Table 2-1: Diversion Potential and Costs for Programs and Projects

Programs / Projects	Potential Diversion	Materials Targeted	Increase in Diversion*	Estimated Annual Cost**	See Page
C&D Recycling Ordinance	15,000***	C&D Debris	7.50%	$55,000	14
Mandatory Commercial Recycling	6,000	Recyclables	3.00%	$50,000	16
School Recycling	2,000	Recyclables / Greenwaste	1.00%	$25,000	18
Local Material Recycling Facility	6,000	Recyclables	3.00%	$25,000	20
City Facilities Recycling	500	Recyclables / Greenwaste	0.25%	$5,000	22
Foodscrap Recovery	5,000	Foodscraps	2.50%	$154,000	24
Public Education & Outreach	-	Recyclables / Greenwaste	-	$100,000	28
Conversion Technology****	N/A	Unrecoverable Material	N/A	N/A	30
Total	34,500	-	**17.25%**	**$414,000**	

** 2,000 tons = 1% diversion*
*** Annual cost estimates based program administration, staffing, equipment and other costs for 2010*
**** Potential C&D diversion tonnages include mixed C&D, wood, greenwaste and scrap metal*
***** Not anticipated to be available in the 5-year time frame covered by this Plan*

Construction and Demolition Recycling Ordinance

Category: Business and Residential Community of Santa Barbara; Entire South Coast Region (potentially)

Background: Data available on C&D debris indicates that the smallest and largest waste generators often do not recycle their C&D materials. Medium-size builders are economically driven to recycle, but larger projects are often handled by out of town builders or demolition contractors that may have arrangements with out-of-county landfills that provide low-cost disposal. The smallest users of roll-off boxes (e.g., residential customers remodeling a room in a house) may not be in the construction business and are often unaware of the cost savings available by recycling. The purpose of a C&D Recycling Ordinance (Ordinance) is to not only require these groups to recycle but also to educate and provide resources.

Figure 2-1: Construction recycling opportunities

Opportunities

- Significant diversion potential
- MarBorg C&D Recycling Facility able to handle most City C&D material

Challenges:

- Initially Waste Management Plans may seem onerous to applicants
- Program may meet resistance in building community
- MarBorg facility permit may need augmentation by CIWMB

Estimated Implementation Date(s):

- September 2005 - Information packet and outreach to contractors
- January 2006 - Draft Ordinance to Ordinance Committee
- May 2006 - Implement Ordinance

Table 2-2: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	3,000	6,000	9,000	12,000	15,000
Estimated Cost	$13,000	$60,000	$60,000	$65,000	$55,000	$55,000

Project Description: A successful C&D Recycling Ordinance would likely require building permit applicants to fill out and submit a Waste Management Plan (WMP) to the City. A WMP would be a simple table of the estimated waste to be generated by material type, the name and address of the recycling or disposal facility to be used and the associated cost. In conjunction with a WMP, applicants would be given a handout with information about the local resources for recycling and all the information they would need to complete the WMP. The thrust of a WMP would be to require builders to read the materials provided so that before project initiation, they will understand how and where to recycle their C&D debris and how easy and cost-effective recycling can be. Another benefit of having applicants completing a WMP includes the exercise of calculating the costs of recycling and disposal, which would motivate applicants to carry out the recycling plan.

Another possible component of a C&D Recycling Ordinance would require project applicants to submit a deposit or performance bond to the City, based on project size. Such a deposit would be returned when the applicant provided the City with weight tickets proving that a minimum of 50% the debris was recycled.

A successful Ordinance would likely apply to all construction and demolition projects and require applicants for building permits to recycle the project waste at a certified local recycling facility. Certification of recycling facilities could be performed on a regional basis by City staff or an independent, outside contractor. To achieve and maintain certification, C&D recycling facilities would be asked to provide waste flow documentation and prove that they divert from landfills a minimum of half of the material that they receive. Construction and demolition tonnages targeted by the Ordinance would include, at a minimum, mixed C&D, greenwaste, wood and scrap metal.

Table 2-3: C&D Recycling Program - 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator	$40,000	$40,000	$45,000	$45,000	$50,000
Other					
Public Education/Brochures	$20,000	$20,000	$20,000	$10,000	$ 5,000
Totals	**$60,000**	**$60,000**	**$65,000**	**$55,000**	**$55,000**

Mandatory Commercial Recycling

Category: Business and Residential Community of Santa Barbara

Background: The current diversion rate for the City's commercial customers (business and multi-unit complexes) is 12%. As such, some form of compulsory recycling may prove necessary to maximize the City's diversion rate. Like the single-family residential sector, it is reasonable to expect that commercial customers in the City will be able to recycle a minimum of 50% of their waste.

Opportunities

- Significant diversion potential
- Increased recycling awareness in all sectors of the City

Challenges:

- Education
- Initial resistance to recycling ordinance
- Enforcement

Figure 2-2: Pamela Webber recycles at her Best Western hotels

Estimated Implementation Date(s):

- January 2006 - Outreach to commercial customers
- July 2006 - Draft ordinance to Ordinance Committee
- January 2007 - Begin mandatory recycling program

Table 2-4: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	1,000	2,000	4,000	5,000	6,000
Estimated Cost	$3,500	$50,000	$55,000	$60,000	$60,000	$50,000

Project Description: A successful Commercial Recycling Ordinance may include the following three elements :

1) Compulsory commercial recycling (which can be structured in a variety of ways),
2) Banning greenwaste in commercial refuse bins, and the use of greenwaste as Alternative Daily Cover (ADC) in landfills, and
3) Equal space for recyclables and refuse in all new commercial development and remodels.

If approved by Council, a mandatory commercial recycling ordinance would require staff to first contact the City's largest business customers and multi-unit complexes about recycling options. In addition, staff would work with businesses to ensure that an equal amount or greater capacity is dedicated to recycling. One potential method in which mandatory commercial recycling could be implemented is through a material ban - where the placement of recyclables in trash containers and vice versa (i.e., trash in recyclables or greenwaste containers) is prohibited. The County has already instituted such a program and in its first year had achieved over 200 tons per month of additional diversion.

Table 2-5: Mandatory Commercial Recycling - 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator	$ 40,000	$40,000	$45,000	$45,000	$45,000
Other					
Public Education	$10,000	$15,000	$15,000	$15,000	$5,000
Totals	**$50,000**	**$55,000**	**$60,000**	**$60,000**	**$50,000**

School Recycling

Category: Community of Santa Barbara

Background: It is well known that children bring new ideas into their households, and can be very effective in communicating recycling and waste reduction ideas to their parents and siblings. The Santa Barbara School District is seeking to improve their overall recycling rate of 26%. The largest category of waste in City schools is foodscrap and food-related packaging. Conversion from washable trays to disposables has greatly increased trash production in City schools. Staff is currently developing a program to address all of the District's recycling needs and to assist them in achieving a minimum diversion rate of 50%.

Figure 2-3: Students are often the most eager and willing recyclers.

Opportunities

- Significant diversion potential
- Children take recycling message home
- Creates future generation of recyclers

Challenges:

- Determining collection responsibilities at school sites
- Changing culture district-wide

Estimated Implementation Date(s):

- January 2005 - Initiate school recycling program
- July 2005 - Convene school district recycling committee
- Fall 2005 - Implement recycling program on all campuses

Table 2-6: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	500	1,000	1,500	2,000	2,000
Estimated Cost	$35,000	$40,000	$40,000	$40,000	$25,000	$25,000

Project Description: An improved effort to assist City schools in their recycling efforts includes technical assistance from City staff to perform assessments of each site, including:

- Visiting classrooms and administrative areas to inventory recycling capacity,
- Determining the amounts and types of waste produced,
- Visiting cafeterias to determine what can be recycled from student lunches,
- Assessing the adequacy of recycling containers in school kitchens,
- Developing opportunities for source reduction in food-related packaging, and
- Exploring the possibility and willingness for on-site composting.

In addition, staff is providing technical assistance and helping City schools develop the appropriate recycling infrastructure and service levels, making sure that equal treatment and equal resources are dedicated to recycling. Staff is also assisting schools in developing a comprehensive recycling education packet for students and faculty, complimented with regular presentations made at each school as requested by site administrators.

Table 2-7: School Recycling - 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator	$20,000	$20,000	$25,000	$25,000	$25,000
Other					
Carts/Containers	$20,000	$20,000	$15,000	-	-
Totals	**$40,000**	**$40,000**	**$40,000**	**$25,000**	**$25,000**

Local Material Recovery Facility

Category: Entire South Coast Region

Background: One of City Council's stated goals for Fiscal Years 2002 and 2003 included working with the Community Environmental Council (CEC) and the County to explore the possibility of siting a local recycling center, otherwise known as a material recovery facility (MRF). A locally-owned MRF with public oversight could be designed and operated in a manner in which a greater portion of the City's waste stream is diverted from disposal facilities. Increased diversion at a local MRF is achievable through more advanced technology, increased staff on sort lines, slower belt speeds, and aggressive marketing of non-traditional recyclables (e.g., plastics #3 - #7).

Figure 2-4: MarBorg's Material Recovery Facility on City Airport property

Opportunities

- Locally-owned and operated MRF's enhance control of solid waste system
- Equitable cost and revenue sharing among jurisdictions
- Diversion potential

Challenges:

- Siting
- Permitting
- Facility oversight and governance

Estimated Implementation Date(s):

- July 2004 - MJSWTG subcommittee drafted scope of work
- March 2006 - Complete feasibility study
- December 2006 - Complete siting study

Table 2-8: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	0	0	2,500	4,500	6,000
Estimated Cost	$34,000	$60,000	$75,000	$25,000	$25,000	$25,000

Project Description: In conjunction with the MJSWTG, staff have developed a preliminary scope of work for a local MRF feasibility study, which includes consideration and analysis of the following:

1) Local control / benefits of a local MRF,
2) A waste stream analysis of the South Coast's clean, commingled materials,
3) The possibility of including a dirty and/or "dusty" MRF component, where recyclables from commercial trash loads are captured as well as clean commingled recyclables,
4) The current processing arrangement between the City and County with a comparison of potential efficiency gains by installing a new, local system,
5) Identification of new markets, for additional materials not currently accepted in County program (e.g., plastics #3-7),
6) An analysis of the current system's revenues and costs and those of a new system,
7) A statewide survey of MRF's and the amount of residual that escapes their processes, and
8) A preliminary design of the facility to ensure that it can process South Coast tonnages and can increase diversion by reducing the residual currently sent to landfills.

If approved by Council, the project would also involve conducting a siting study in which all potential locations would be analyzed. Potential governance structures and public / private cooperative agreements would be developed as well. Staff would work through the auspices of the MJSWTG to complete the feasibility study by January 2006. If deemed a benefit for the City and/or South Coast region, this would be followed by a siting study and concurrent analysis of potential governance structures.

Table 2-9: Local Material Recovery Facility - 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator / Multi-Jurisdictional Liaison	$25,000	$25,000	$25,000	$25,000	$25,000
Other					
Project Analysis / Phases I & II	$35,000	$50,000	$ -	$ -	$ -
Totals	**$60,000**	**$75,000**	**$25,000**	**$25,000**	**$25,000**

City Facilities Recycling

Category: Internal City Government

Background: The City Facilities Recycling program has been designed to lead by example and increase diversion from City facilities by: 1) achieving 70% diversion in City facilities by the end of Fiscal Year 2007 - ahead of the Citywide 2010 goal and 2) establishing a model office and facility recycling program to serve as an example for both residents and businesses. Staff are addressing waste diversion issues in City cultural centers, fire stations, public works facilities and administration buildings. Recycling is simplified by providing clearly marked, convenient and standardized recycling bins for use by all City employees. To date, over 600 new desk-side recycling containers with small trash cans have been installed at all City workstations.

Opportunities

- Diversion potential
- Leading by example
- Reinvigorated, improved recycling effort

Challenges:

- Resistance to small trash containers
- Changing City government culture
- Staff emptying recycling containers

Figure 2-5: Large recycling containers with small attachments for trash in City offices

Estimated Implementation Date(s):

- November 2004 - Installed new trash/recycling containers in City offices
- December 2004 - Distributed signage throughout City offices
- February 2005 - Developed informational materials
- August 2005 - Identify other areas where improvement is needed

Table 2-10: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	300	400	500	500	500
Estimated Cost	$20,000	$20,000	$10,000	$10,000	$5,000	$5,000

Project Description: The City Facilities Recycling Program's primary goal is to make recycling as easy as possible throughout City government facilities by providing clearly marked, convenient and standardized recycling bins for use by all City employees. To date, over 600 new desk-side recycling containers with small trash cans have been installed at all City workstations. Efforts will continue to both educate City employees and continually improve the City's recycling infrastructure with more space dedicated to recycling and less to disposal.

Table 2-11: City Facilities Recycling - 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator	$20,000	$10,000	$10,000	$5,000	$5,000
Totals	**$20,000**	**10,000**	**$10,000**	**$5,000**	**$5,000**

Foodscrap Recovery and Composting

Category: Business and Residential Community of Santa Barbara

Background: The City sends approximately 22,000 tons of foodscraps to the Tajiguas Landfill every year, or 19.5% of all material that the City landfils in a given year. If approved by Council, a foodscrap recovery program for the commercial and residential sectors would increase the City's diversion rate and complete the ecological cycle of returning nutrients back to the soil for local residents, farmers, gardeners and nurseries. While foodscrap recovery is a significant opportunity for the City, a full-scale program would be a challenging and potentially expensive undertaking, as there are many issues involved with the collection, composting, and marketing processes. This Plan recommends a pilot foodscrap recovery program, allowing for the development of a series of best practices for use in a full-scale program.

Opportunities:

- Significant diversion potential
- Composted foodscraps can be converted to useful soil amendment relatively quickly
- Excellent education opportunity for community

Challenges:

- Odors
- Vectors
- Collection and transportation

Figure 2-6 – San Francisco and Toronto have residential foodscrap programs

Estimated Implementation Date(s):

- September 2005 – Launch pilot program
- September 2006 – Initiate voluntary commercial program
- September 2007 – Initiate voluntary residential program

Table 2-12: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	1,560	2,000	3,000	4,000	5,000
Estimated Cost	$10,000	$66,840	$78,000	$116,000	$140,000	$154,000

Project Description: Like other cities with foodscrap recovery programs, the City's program could be rolled out in phases, beginning with a pilot in fiscal year 2006 (summer 2005). If successful and approved by Council, it is recommended that this be followed with a limited number of additional commercial participants in 2006, part of the City's residential sector in 2007, and additional residential areas in 2008 and 2009. This completely voluntary program could be available to all City residents and businesses by the end of fiscal year 2010. If the program is successful and Council desires to expand it citywide, a capture rate of 25% (or 5,000 tons/year) is anticipated (based on comparable foodscrap recovery programs).

It is recommended that the pilot program, beginning in the summer of 2005, be made available free of charge to a handful of large institutions, restaurants and grocery stores. Commitments for the pilot have already been secured from Santa Barbara City College, Cottage Hospital, Lazy Acres supermarket and a number of local restaurants – all in collection Zone One. Operating the pilot program in a single collection zone would be the most feasible way to begin the program and develop best practices. During this effort, staff would evaluate the program's weaknesses and challenges and capitalize on its strengths for implementation throughout the commercial and residential sectors over the following four years. It is recommended that the program be completely voluntary and that implementation phases be carefully controlled such that costs are minimized and the critical technical outreach be provided to program participants.

During the pilot program, foodscraps could be collected using a flatbed truck and a 32-gallon cart exchange system. The hauler would pick up filled carts from each of the generators and exchange them with clean, empty carts on a regular basis. The hauler would take filled carts from the generators to a staging area where the foodscraps would be dumped and the carts cleaned - ready for the next exchange. Carts would be placed in strategic locations at participant sites, as determined by staff and program participants.

Participant employees' would be required to dispose of all foodscraps into the appropriate cart, as opposed to placing them in refuse containers or garbage disposal units. Both food preparation scraps (pre-consumer) as well as table scraps / leftovers (post-consumer) would be accepted in the program. Once filled, carts would be rolled to an established pick-up location at the facility. The volume of foodscraps generated at each site would determine the appropriate collection schedule by the hauler, and would be adjusted on an as-needed basis to minimize the occurrence of odors and vectors.

Staff would be available to train employees at the various participants' facilities on best practices and methods to capture the maximum amount of foodscraps with the least amount of effort and contamination (items that are not compostable such as glass, plastics, and metal). Training would be conducted in both English and Spanish for all individuals who deal with foodscraps. Additionally, the City would provide manuals and posters to compliment an ongoing outreach and education effort.

Processing Options

Costs for foodscrap composting vary greatly depending on the composting method selected. In-vessel technologies generally have higher up-front capital costs while windrow composting requires the acquisition of land or tipping fees at an existing facility.

The Plan recommends using windrow composting for a pilot program because an in-county composting facility interested in accepting the material from a pilot project exists. Based on the differential between the tipping fee of the composting facility and the tipping fee at Tajiguas Landfill of $14/ton, assuming 312 days of operation, and 5 tons/day, net tipping fees for the pilot program would be $21,840.

In-vessel composting technology requires less land which means it could be an option for composting foodscraps within City limits. The higher initial capital cost of in-vessel technologies make them a feasible option once the collection of foodscraps has been successfully demonstrated to be practical on a sufficiently large scale.

Figure 2-7: Windrow composting facility

Figure 2-8: In-vessel composting system

Table 2-13: Foodscrap Program - 5-Year Cost Detail

Program Element	FY 2006 (Pilot Program)	FY 2007 (All Commercial)	FY 2008 (1/3 Residential)	FY 2009 (2/3 Residential)	FY 2010 (Citywide Implementation)
Staff					
Program Coordinator	$20,000	$20,000	$20,000	$25,000	$25,000
Hourly Employees	-	$20,000	$20,000	$25,000	$25,000
Equipment					
Containers / bags *	-		$24,000	$24,000	$24,000
Other					
Tip Fee Differential**	$22,000	$28,000	$42,000	$56,000	$70,000
Consultant***	$15,000	-	-	-	-
Outreach & Education	$10,000	$10,000	$10,000	$10,000	$10,000
Totals	**$67,000**	**$78,000**	**$116,000**	**$140,000**	**$154,000**

* In-kitchen containers and biodegradable bags provided to residential participants.

** $65/ton versus $51/ton for disposal equates to $14 / ton total increase in tipping fee costs. Improved economies of scale and/or introduction of in-vessel technologies could result in further reduced tip fees for processing foodscraps in subsequent years.

*** Training and assistance with program design

Public Education and Outreach

Category: Business and Residential Community of Santa Barbara

Background: As with any program designed to achieve specific modifications to behavior, public education and outreach is a critical component of Santa Barbara's recycling and diversion programs. A focused, consistent message is being developed to inform and update the community about the City's recycling, waste reduction and reuse programs.

Opportunities

- Diversion potential
- Compliments all City diversion projects and programs
- Covers all sectors

Challenges:

- Competing with advertising that promotes resource consumption
- Developing an effective message
- Measuring impacts

Figure 2-9: City staff outreach to the community at the Sustainable Landscape Fair

Estimated Implementation Date(s):

- January 2006 - Conduct baseline education survey
- April 2006 - Launch new outreach campaign
- January 2007 - Conduct follow-up survey

Table 2-14: Diversion (in tons) and Cost - Six Year Projections

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Additional Diversion	N/A	–	–	–	–	–
Estimated Cost	$55,000	$75,000	$80,000	$85,000	$90,000	$100,000

Project Description: Effective outreach and education for recycling, reuse and waste reduction consists of five principal approaches: 1) materials for use in mass media, 2) school education programs, 3) special events, 4) workshops, and 5) building community connections. A more focused, consistent message is being developed to inform and update the community about the City's recycling, waste reduction and reuse programs.

Some of the City's options for the Solid Waste Program's public outreach and education efforts include placement of recycling, reuse and waste reduction messages on local cable television stations, newspapers, magazines, radio and on the sides of Municipal Transit District buses. Critical information will also continue to be distributed to the public through inserts in City water and trash bills, direct mailers and through the City's recycling web site and telephone hotline. Brochures will be improved and made available at fairs and in businesses and will continue to be available in City departments in which the public receives City services (such as the Community Development and Public Works Departments' permitting counters). All outreach material will continue to be produced in both Spanish and English.

An opportunity for improved outreach to local schools is for Looking Good Santa Barbara (funded by the City' Solid Waste Enterprise Fund) to increase its efforts in working with the City Parks and Recreation's Youth Council. Historically, LGSB staff trained a limited number of Youth Council participants on recycling and provided them with a baseline knowledge of recycling. In turn, Youth Council participants will be urged to develop presentations on recycling, waste reduction, and reuse and deliver those messages to City's elementary school children.

Table 2-15: Public Outreach and Education – 5-Year Cost Detail

Program Element	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Staff					
Program Coordinator	$20,000	$20,000	$25,000	$25,000	$25,000
Other					
Public Outreach/Advertising Materials	$35,000	$60,000	$60,000	$65,000	$75,000
Consulting / Design	$20,000	-	-	-	-
Totals	**$75,000**	**$80,000**	**$85,000**	**$90,000**	**$100,000**

Conversion Technology

Category: Entire South Coast Region

Background: Waste Conversion Technology (CT) may play a role in a long-term solid waste management system for Santa Barbara County, particularly for the users of the Tajiguas Landfill. The MJSWTG has identified CT as a potential long-term alternative to expansion of the landfill. CT has been generating interest in California as the CIWMB and several communities around the State have also been investigating it as a long-term solution. Converting otherwise unrecoverable material to energy or energy-producing fuel, CT could be a valuable addition to Santa Barbara's waste management system. The CIWMB currently does not count CT tonnages as diversion, but converted municipal solid waste is solid waste that will not go to a landfill.

Opportunities

- Material not landfilled (currently no diversion credit)
- Produces energy
- Requires pre-sorting which gains additional diversion
- Provides a benefit from residual, non-divertible solid waste

Challenges:

- Siting
- Cost
- Air emissions
- Selecting technology
- Could interfere with recycling programs

Program Description:

CT is a mix of varied processes that accept different feedstocks and produce a variety of fuels and products. CT differs from incineration in that it is a feedstock conversion process where a desired fuel is generated and can be managed for pollution controls before combustion. All CT's have different feedstocks, processes and products. The two key CT types are thermo-chemical, which relies primarily on heat to transform solid waste and operates at high temperatures and biochemical, which uses biological processes to transform solid waste and operates at lower temperatures.

CT offers opportunities to make use out of the City's residual solid waste – the un-recyclable and otherwise non-divertible components of the waste stream. Using organic-based materials for fuel could result in less material being landfilled, while incompatibilities with metals, glass, hazardous materials, and others will encourage further separation of material for recycling and safe disposal. The City may also benefit from the use of CT as a

long-term, locally-controlled method for processing the biosolids from the City's El Estero Wastewater Treatment Plant.

Conversion Technology through the MJSWTG

CT is an expensive undertaking that will only happen in Santa Barbara County as a regional solution with the participation of multiple jurisdictions. The Task Group has evaluated conversion technology (CT) as a potential alternative to landfilling and has considered a long-term solid waste management scenario that includes CT. The Task Group has determined that CT may prove a feasible alternative to landfilling for the South Coast if the technology is able to satisfy the following four conditions:

1. The facility does not impede or impair the success of existing or planned recycling, reuse and/or waste reduction programs;

2. The facility is environmentally sound and can meet all Federal, State and local permitting requirements;

3. An acceptable site can be determined for the facility;

4. The facility is economically feasible when compared to further expansion of the landfill or shipping waste to an alternate disposal location.

These conditions should ensure that CT does not interfere with feasible recycling programs and should be environmentally safe. The Conversion Technology Subgroup of the Task Group has asked member agencies to approve the above four conditions for accepting CT as the preferred policy alternative for disposal over the long-term. The matter will be scheduled for City Council review. If the above conditions can be met, CT may ultimately have a place in the South Coast's solid waste management system. Because of technology selection, siting, cost and environmental issues, CT is not expected to be viable prior to 2010, and it is not included in this Plan's strategies for maximizing City of Santa Barbara diversion within the next five years.

Section 3 – Waste System Modifications and Other Initiatives

INTRODUCTION

This section provides a number of recommended changes or modifications to the structure of the City's solid waste management system and other initiatives approved as part of the City's solid waste policy in 2002. These adjustments and initiatives qualify neither as programs nor projects but contain the same goal as the programs and projects discussed in the previous section. Table 3-1 lists identified system modifications and initiatives along with the estimated diversion potential for each component and estimated cost. Staff estimates that these activities can capture 14,200 tons of the divertible materials identified in Table 1-4 on page 12.

Table 3-1: Diversion Potential and Costs of System Modifications

	Potential Diversion (tpy)	Increase in Diversion*	Estimated Annual Cost**	See Page
System Modifications & Other Initiatives				
Annual Waste Generation	2,000	1.00%	-	33
Additional Greenwaste***	5,000	2.50%	$5,000	34
Unscheduled Hauling Permits	3,000	1.50%	$2,000	34
C&D Recycling Facility Support	-	-	-	35
Rate Incentives	1,000	0.50%	-	35
Waste Stream Optimization	-	-	-	36
Uniform Container Colors	-	-	-	36
Space Requirements for Recycling	-	-	-	36
Recycling in Public Spaces	700	0.50%	$130,000	37
Green Purchasing Policy	-	-	$4,000	37
Hazardous Waste Management	2,500	1.25%	-	38
Totals	**14,200**	**7.25%**	**$141,000**	

** 2,000 tons = 1% diversion*

*** Annual cost estimate based on administration, staffing, equipment and/or program subsidies in 2010*

**** Additional 32 gallons (64 gallons total) free green to residential customers*

ANNUAL WASTE GENERATION

As previously noted the California Integrated Waste Management Act requires all California jurisdictions to establish a base year, or annual waste generation, indicating the total waste generated in a given year. Because the City's waste stream has changed significantly and the City's existing waste generation rate does not reflect current diversion programs and their effect on the City's waste stream, the City's waste generation rate on file with the CIWMB needs to be updated. It is anticipated that this study will be conducted during the summer and fall of 2005.

As provided by the CIWMB, there are four major steps involved in updating the City's waste generation rate:

1) Designing a Diversion Study

A diversion study is a methodology used to quantify a jurisdiction's existing diversion efforts. Through a diversion study, the City can quantify the existing and current waste diversion tonnage by gathering data from haulers, recycling centers, commercial and industrial businesses, government agencies, transfer stations, and landfills. Additionally, the City's disposal tonnage is available through the CIWMB's Disposal Reporting System. The City will design an appropriate diversion study in order to effectively quantify all diversion efforts. This study will need to address a series of issues, including an assessment of community characteristics, identifying where to capture diversion data, determining data collection approaches, and deciding on the appropriate sampling method.

2) Conducting a Diversion Study

There are three main areas of focus during this phase: preparing quality control procedures, contacting service providers, and collecting data from generators. Quality control means ensuring the study is designed so that it is clear, independently verifiable, and in a form that provides data that can be analyzed. Contacting the service providers mainly involves those handling the trash and recycling efforts such as BFI, MarBorg, and the County of Santa Barbara. Finally, the City needs to contact generators to determine what is being disposed and what diversion efforts are instituted at various locations.

3) Analyze Data and Calculate Diversion

Once the City has collected the necessary data, it will be necessary to analyze the results. The City will need to determine quality of the data to ensure there is no double counting or numerical errors. Additionally, the City will use the CIWMB conversion factors to help determine its diversion.

4) Prepare and Submit Information to the CIWMB

Once the City calculates all new diversion and disposal rates, the appropriate paperwork will be submitted to the CIWMB.

Calculating a more accurate waste generation rate offers a number of benefits to the City. First, it more accurately shows diversion, allowing any changes in the waste stream to be included in future submittals to the CIWMB. Second, a diversion study can help the City recognize diversion tonnages that were missed in the last effort. Third, a diversion study can help raise awareness of the recycling and source reduction efforts available. Through the survey, businesses previously unaware of the possibilities for recycling and source reduction may implement new diversion programs. Finally, a waste diversion study can help the City identify new possibilities for diversion from landfills - illustrating opportunities missed by current recycling efforts.

ADDITIONAL GREENWASTE CAPACITY

Even though single family residents are offered 32-gallons of free greenwaste each week, 9% or approximately 23,000 tons of the material disposed at the Tajiguas Landfill each year is greenwaste. One of the primary problems is that once a residential customer's greenwaste container is filled in a given week, they may place the rest of this material in a trash can rather than purchase more greenwaste capacity. Residents with medium to large yards quite often produce more greenwaste than recyclables, and a year-round growing season in Santa Barbara keeps the demand high. As such, increasing greenwaste capacity to 64 gallons / week with no added cost for single-family residential customers would provide them with the opportunity to divert much more material. Staff would monitor the effects of such an effort and will determine through waste audits if additional capacity is needed in the future (e.g., 95 gallons of greenwaste capacity). It is anticipated that consideration of additional greenwaste capacity will be brought before Council in April 2006.

UNSCHEDULED HAULING PERMITS

The implementation of a permit program for unscheduled hauling services is another system modification that would advance recycling goals in the City. Presently, there is no mechanism in place to oversee any of the unscheduled hauling activity in the City since these fall outside of the regularly scheduled services contained in the City's collection and disposal franchise agreements. As such, City staff do not know the ultimate disposition of these materials nor can they direct them to local, City-designated recycling facilities. An unscheduled hauling permit would be required of any and all businesses wishing to provide this sort of service and, as stated above, would afford City staff the ability to track the movement of materials and encourage and direct permitees to recycling and processing versus disposal facilities. The program is anticipated to be in effect by January 2006, in advance of a C&D Recycling Ordinance.

C&D RECYCLING FACILITY SUPPORT

A critical element for maximizing the City's diversion is having the capacity to process and recycle the bulk of our community's C&D debris. The efforts of the local C&D Recycling Facility comprise a significant portion of the City's 51% diversion rate. In addition to high

diversion levels, the facility also provides guaranteed, long-term security to the City as it relates to disposal, since it is a fully permitted Solid Waste Facility. Expanding the permitted capacity at the C&D Recycling Facility may be necessary to allow not only additional C&D debris processing, but sorting and recycling of select loads of commercial waste and other institutional and industrial waste streams.

RATE INCENTIVES

Over the past several years, the City's solid waste collection rates have been modified to foster diversion activity, and make them more equitable and easier to use and understand. They have been reorganized so that single-family, multi-family, and businesses are differentiated, making it clear which services are offered to which customers. Bill codes for free services have also been added so that customers can see all of their services on their bill. Dumpster-sharing among businesses is now easier because new bill codes allow customers to be billed for portions of the trash service instead of requiring one business to pay the bill and seek reimbursement from other businesses using the dumpster. In spite of these and other improvements, the solid waste collection rates require further modification. As such, staff will investigate pricing alternatives and present to Council a pricing structure that provides financial incentives for residents and commercial customers to recycle.

Figure 3-1: Plastic bottles are a significant component of commingled recyclables

WASTE STREAM OPTIMIZATION

A thorough analysis of the current processing arrangements for the City's greenwaste and commingled recyclables will provide an opportunity to determine if efficiencies can be gained by redirecting these resources to a variety of processing facilities. Some of the potential benefits include revenue for the diversion programs described in this Plan, as well as reduced transportation costs and improved economies of scale. This has the potential benefit of lower monthly rates charged to City ratepayers.

UNIFORM CONTAINER COLORS

Making recycling simple, consistent and easy are important components of a successful recycling program. To date, all greenwaste containers throughout the City are green.

Such uniformity in container colors makes it easy for customers to identify greenwaste containers in the City.

In this vein, staff has been working with the City's franchise haulers to make all commercial recycling containers (2, 3 and 4 cubic yard bins) white. Similarly, staff is working with the haulers to phase in residential recycling cans and carts (32-, 64-, and 95- gallons) that are blue. Since the BFI color for trash bins has historically been blue, and since BFI has utilized white for several years to denote recycling in the commercial sector, these color schemes are now the standard for all commercial and residential containers.

Figure 3-2*:* BFI recycling bins and MarBorg trash dumpsters

SPACE REQUIREMENTS FOR RECYCLING

One of the most significant barriers to commercial recycling is lack of space for additional containers. California Assembly Bill 1327 required jurisdictions to develop an ordinance for space allocation for recycling or to adopt the State's model ordinance by September 1, 1993. This model ordinance requires that "adequate space be provided for recycling in all development projects," but does not specify what is adequate. Because adequate space for recycling is essential for maximizing diversion and research shows that over 50% of solid waste generated is recyclable, new residential and commercial construction projects should be required to dedicate at least 50% of their allocated space for recycling and greenwaste. Staff are currently reviewing construction plans and assuring that adequate space is dedicating to may new development projects in the City.

RECYCLING IN PUBLIC SPACES

Recycling must be accessible in all areas where the City provides free trash service. These areas include City parks, sidewalks and parking lots. To date, staff has placed over 600 recycling containers, many of them temporary, in all City parks. Approximately 60% of the volume in City parks is dedicated to recycling capacity, with only 40% dedicated to

trash. All containers are clearly labeled, encouraging recycling in these areas by ensuring they are well-marked and conveniently placed.

Figure 3-3: Recycling containers placed next to trash cans in City Parks

Additionally, over 140 new trash and recycling containers have been installed on lower state street, providing equal capacity for recycling and trash. The Public Spaces Recycling project includes plans for replacing all temporary recycling containers in City parks with permanent containers, as well as installing permanent containers along numerous City streets and parking lots. The Municipal Transit District (MTD) has also expressed an interest in installing recycling containers at its numerous bus stops and on buses. Continuing these efforts communicates the City's dedication to recycling to the community.

GREEN PURCHASING POLICY

City facilities are one of the largest resource consumers in the community. In the process of providing public goods and services, the City consumes a large amount of paper, chemicals, computers and many other products. The City can close the loop and greatly reduce its impact on the environment through the adoption of a Green Purchasing Policy (GPP). A well-designed GPP would contribute to the City's recycling effort through the use of recycled products while decreasing the negative environmental impacts that result from the use of toxic chemicals. Staff anticipates bringing an GPP before Council in the Spring of 2006.

Figure 3-4: Recycled Paper is a large component of a Green Purchasing Policy

HAZARDOUS WASTE MANAGEMENT

Historically, tipping fee revenues received at the County-owned and operated Tajiguas Landfill covered the cost of the City's participation in numerous regional diversion programs, including the operation of the Household Hazardous Waste Collection Center (HHWCC) at UCSB. The County recently separated costs for the HHWCC and other County diversion programs from the overall landfill costs and no longer uses tipping fees to fund these efforts.

In the summer of 2004, staff negotiated the terms of a program fee with the County to cover the cost of continued participation in select diversion programs administered by the County, including use of the HHWCC. According to data collected by the County, City residents and businesses comprise approximately 35% of the facility's total usage, for a cost of approximately $385,000 for FY 2005. This agreement is currently on a year to year basis.

Figure 3-5: The City's ABOP Recycling Facility

In September 2005, MarBorg Industries will assume responsibility for the operation of the City's Antifreeze, Batteries, Oil and Paint (ABOP) Recycling Center as part of their contractual obligations to the City, detailed in two five-year contract extension options. In conjunction with the MJSWTG process, expanding MarBorg's ABOP permit to accept the entire range of household hazardous wastes and electronic waste would better satisfy the public need for safe hazardous waste disposal in the region. Staff estimate a more vigorous program can achieve an annual diversion of 2,000 tons of electronic waste and 500 tons of household hazardous waste.

Section 4 – Recommendations

The preceding two sections present a variety of programs, system modifications and initiatives that can generate over 40,000 tons per year of additional diversion. These actions (with the exception of conversion technology) will allow the City to maximize its diversion and can be achieved by 2010. Table 4-1 shows the complete range of programs and system modifications, estimated annual costs at full implementation, and estimated additional diversion potential of the City's Solid Waste Strategic Plan.

With direction from Council, staff is prepared to carry out the programs and projects recommended in this Strategic Plan. Many of the recommended activities are currently budgeted, and the increase in diversion from them can be realized soon. Other elements of the Strategic Plan are being worked on now but will require additional Council approvals, such as ordinances or approval of consultant contracts. Still other programs, particularly regional programs, will take more time. Below is a listing of the Strategic Plan programs and activities grouped by how quickly they can be implemented and where Council approval is needed. Many of the Strategic Plan activities have begun or can be started in FY 2006, as indicated in Table 4-1.

Table 4-2 estimates the annual costs and diversion potential of the recommended Solid Waste Strategic Plan programs and system modifications as these activities may be implemented through FY 2010. The FY 2006 recommended actions of the Strategic Plan can be implemented without recycling fee increases, based on the cost assumptions in this Plan. The 2006 costs listed in Table 4-3 can be covered with the proposed Solid Waste Fund Budget plus requested carryover funds from the FY 2005 Budget. If experience determines that additional funds are needed for future year activities, funding alternatives will need to be addressed at that time.

Also important to note is that many of these programs will be done in conjunction with the Multi-Jurisdictional Solid Waste Task Group, in particular, the County of Santa Barbara and the City of Goleta. Working together with our neighboring agencies will bring efficiencies and economies of scale to the entire regional solid waste management system.

Table 4-1: Recommended Programs, Projects and System Modifications

Requires Additional Council Approval	Program	Description	See Page
		Immediate-term (In Progress)	
No	**School Recycling**	• Visiting school sites to inventory recycling capacity • Determining types of wastes produced • Visiting cafeterias to determine what can be recycled • Developing opportunities for waste reduction	18
No	**City Facilities Recycling**	• Providing clearly marked, convenient and standardized recycling bins for use by City employees • Making recycling convenient in City government facilities	22
No	**Public Education & Outreach**	• Developing focused, consistent message to update community on City's recycling and reuse programs	28
No	**Uniform Container Colors**	• Working with franchise haulers to make all commercial recycling containers bins white and all residential recycling cans and carts blue	36
No	**Space Requirements for Recycling**	• Requiring new residential and commercial construction projects to dedicate minimum of 50% capacity to recycling • Construction plans are currently being reviewed by City staff	36
No	**Recycling in Public Spaces**	• Continuing effort to provide recycling in City parks, sidewalks and parking lots • Over 500 recycling containers have been installed on City sidewalks and in City parks	37

Table 4-1 – Continued

Requires Additional Council Approval	Program	Description	See Page
Short-term (For Consideration in FY 2006)			
Yes	**C&D Recycling Ordinance**	• Applies to all construction and demolition projects • Requires applicant for building permit to recycle at least 50% of project waste at certified local recycling facility	14
Yes	**Mandatory Commercial Recycling**	• Requires recycling in commercial sector • Requires equal space for recyclables and refuse in all multi-unit residential and commercial facilities	16
Yes	**Pilot Foodscrap Recovery & Composting**	• Collects foodscraps from several large institutions and restaurants • Commitments to participate in Pilot Program include Cottage Hospital and Santa Barbara City College • Material can be composted at existing composting facility in northern Santa Barbara county	24
No	**Annual Waste Generation**	• Updates City's annual waste generation rate on file with CIWMB	33
Yes	**Additional Greenwaste**	• Increases single-family residential greenwaste capacity • Provide additional greenwaste containers to residential customers	34
Yes	**Unscheduled Hauling Permits**	• Requires businesses providing unscheduled hauling services to obtain permit • Allows City to track movement of materials and direct participants to recycling and processing facilities	34
Yes	**C&D Recycling Facility Support**	• Supports expansion of CIWMB-permitted capacity at MarBorg C&D Recycling Facility	35
Yes	**Rate Incentives**	• Modifies rate structure to maximize financial incentives to recycle	35
No	**Waste Stream Optimization**	• Considers current processing arrangements for City's greenwaste and commingled recyclables to gauge potential efficiencies gains by directing materials to the processing facilities that provide the best cost/benefit ratios	36
Yes	**Green Purchasing Policy**	• Contributes to City recycling effort through use of recycled products • Identifies alternatives to toxic chemicals	37

Table 4-1 – Continued

Requires Additional Council Approval	Program	Description	See Page
Medium-term Regional Projects (Within Five Years)			
Yes	**Local Material Recovery Facility**	• Explores potential siting, operation, and governance structures for regional Material Recovery Facility on South Coast	20
Yes	**Hazardous Waste Management**	• Expands Santa Barbara ABOP permit to accept entire range of household hazardous and electronic waste • Provides centrally located, safe hazardous waste disposal for region	37
Long-term Regional Projects (Beyond Five Years)			
Yes	**Conversion Technology**	• Explores feasibility of conversion technology as alternative to landfilling non-divertible fraction of South Coast MSW • Facility construction and operation would be beyond the five year time frame of this Plan	30

Table 4-2: Diversion Potential and Costs of Programs and System Modifications

Programs / Modifications	Targeted Materials*	Potential Diversion	Increase in Diversion**	Estimated Cost***	See Page
Programs					
C&D Recycling Ordinance	1,2,3,4,5	15,000[1]	7.50%	$55,000	14
Mandatory Commercial Recycling	3,5,6	6,000	3.00%	$50,000	16
School Recycling	2,3,5,6	2,000	1.00%	$25,000	18
Local Material Recycling Facility	3,5,6	6,000	3.00%	$25,000	20
City Facilities Recycling	2,3,5,6	500	0.25%	$5,000	22
Foodscrap Recovery	9	5,000	2.50%	$154,000	24
Public Outreach & Education	N/A	-	-	$100,000	28
Conversion Technology	12	N/A	N/A	N/A	30
System Modifications & Other Initiatives					
Annual Waste Generation	N/A	2,000	1.00%	-	33
Additional Greenwaste Capacity[2]	2	5,000	2.50%	$5,000	34
Unscheduled Hauling Permits	1	3,000	1.50%	$2,000	34
C&D Recycling Facility Support	1,12	-	-	-	35
Rate Incentives	2,3,4,5,6	1,000	0.50%	-	35
Waste Stream Optimization	2,3,4,5,6	-	-	-	36
Uniform Container Colors	3,5,6	-	-	-	36
Space Requirements for Recycling	2,3,5,6	-	-	-	36
Recycling in Public Spaces	3,6	700	0.5%	$130,000	37
Green Purchasing Policy	N/A	-	-	$4,000	37
Hazardous Waste Management	11	2,500	1.25%	-	38
Totals		**48,700**	**24.5%**	**$555,000**	

** Materials' numbers corresponds to numbers in Table 1-4*

*** 2,000 tons = 1% diversion*

**** Annual cost estimate based administration, staffing, equipment in 2010.*

[1] *Potential C&D diversion tonnages include mixed C&D, wood, greenwaste and scrap metal*

[2] *Additional 32 gallons (64 gallons total) greenwaste capacity at no cost to residential customers*

Table 4-3: Six Year Projection
Estimated Costs and Additional Diversion

Projects & Programs	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
C&D Recycling Program						
Estimated Cost	$13,000	$60,000	$60,000	$65,000	$55,000	$55,000
Additional Diversion	N/A	3,000	6,000	9,000	12,000	15,000
Mandatory Commercial Recycling						
Estimated Cost	$3,500	$50,000	$55,000	$60,000	$60,000	$50,000
Additional Diversion	N/A	1,000	2,000	4,000	5,000	6,000
School Recycling						
Estimated Cost	$35,000	$40,000	$40,000	$40,000	$25,000	$25,000
Additional Diversion	N/A	500	1,000	1,500	2,000	2,000
Local Material Recovery Facility						
Estimated Cost	$34,000	$60,000	$75,000	$25,000	$25,000	$25,000
Additional Diversion	N/A	-	-	2,500	4,500	6,000
City Facilities Recycling						
Estimated Cost	$20,000	$20,000	$10,000	$10,000	$5,000	$5,000
Additional Diversion	N/A	300	400	500	500	500
Foodscrap Recovery						
Estimated Cost	$10,000	$67,000	$78,000	$116,000	$140,000	$154,000
Additional Diversion	N/A	800	2,000	3,000	4,000	5,000
Public Outreach and Education						
Estimated Cost	$55,000	$75,000	$80,000	$85,000	$90,000	$100,000
Additional Diversion	N/A	-	-	-	-	-
Cost Subtotal	**$170,500**	**$372,000**	**$398,000**	**$401,000**	**$400,000**	**$414,000**
Diversion Subtotal	**N/A**	**5,600**	**11,400**	**20,500**	**28,000**	**34,500**

Table 4-3 – Continued

System Modifications	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Annual Waste Generation						
Estimated Cost	$2,000	$50,000	-	-	-	-
Additional Diversion	-	2,000	2,000	2,000	2,000	2,000
Additional Greenwaste Capacity						
Estimated Cost	-	$50,000	$20,000	$10,000	$10,000	$5,000
Additional Diversion	N/A	1,000	2,000	3,000	4,000	5,000
Unscheduled Hauling Permits						
Estimated Cost	-	$5,000	$2,000	$2,000	$2,000	$2,000
Additional Diversion	N/A	1,000	1,500	2,000	2,500	3,000
C&D Recycling Facility						
Estimated Cost	-	-	-	-	-	-
Additional Diversion	N/A	N/A	N/A	N/A	N/A	N/A
Rate Incentives						
Estimated Cost	$8,000	-	-	-	-	-
Additional Diversion	N/A	1,000	1,000	1,000	1,000	1,000
Waste Stream Optimization						
Estimated Cost	-	-	-	-	-	-
Additional Diversion	N/A	N/A	N/A	N/A	N/A	N/A
Uniform Container Colors						
Estimated Cost	-	-	-	-	-	-
Additional Diversion	N/A	N/A	N/A	N/A	N/A	N/A
Space Requirements for Recycling						
Estimated Cost	-	-	-	-	-	-
Additional Diversion	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal Cost	**$10,000**	**$105,000**	**$22,000**	**$12,000**	**$12,000**	**$7,000**
Subtotal Diversion	**N/A**	**5,000**	**6,500**	**8,000**	**9,500**	**11,000**

Table 4-3 - Continued

Other Initiatives	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Recycling in Public Spaces						
Estimated Cost	$50,000	$130,000	$130,000	$130,000	$130,000	$130,000
Additional Diversion	N/A	300	400	500	600	700
Green Purchasing Policy						
Estimated Cost	$2,500	$7,000	$5,000	$5,000	$4,000	$4,000
Additional Diversion	N/A	N/A	N/A	N/A	N/A	N/A
Hazardous Waste Management						
Estimated Cost	-	-	-	-	-	-
Additional Diversion	N/A	500	1000	1500	2000	2500
Subtotal Cost	**$52,500**	**$137,000**	**$135,000**	**$135,000**	**$134,000**	**$134,000**
Subtotal Diversion	**N/A**	**800**	**1,400**	**2,000**	**2,600**	**3,200**
Total Cost	**$233,000**	**$614,000**	**$555,000**	**$548,000**	**$546,000**	**$555,000**
Total Diversion	**N/A**	**11,400**	**19,300**	**30,500**	**40,100**	**48,700**